MIRAVIS®

Introduction and overview
Canola Pathology Workshop,
Melbourne, March 2018

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What is MIRAVIS®?

CLASSIFICATION: Internal use only

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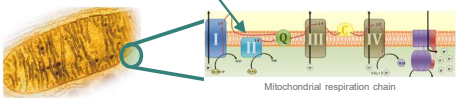
MIRAVIS® – A new Succinate DeHydrogenase Inhibitor

MIRAVIS ®

Group Name: SDHI (Succinate DeHydrogenase Inhibitor)
Chemical Group: N-methoxy-(phenyl-ethyl)-Pyrazole carboxamide

Target site: action on Complex II, Succinate Dehydrogenase)
FRAC Code: 7



Mitochondrial respiration chain

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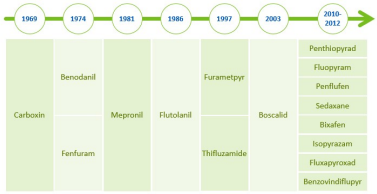
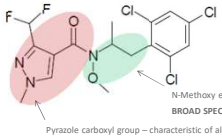


Carboxamide optimization continued with ADEPIDYN™

Innovation within carboxamide chemistry…



N-Methoxy ethyl linker – unique among carboxamide
BROAD SPECTRUM and LONG-LASTING EFFICACY

Pyrazole carboxyl group – characteristic of all newer generation and potent carboxamide
HIGH POTENCY

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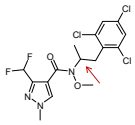
ADEPIDYN™ – A trademark for pydiflumetofen

Chemical Name (IUPAC) : 3 (difluoromethyl)-N-methoxy-1-N-[(RS)-1-methyl-2-(2,4,6-trichlorophenyl)ethyl]pyrazole-4-carboxamide

ISO name : pydiflumetofen



Technical AI name : ADEPIDYN™
ADEPIDYN™ is a trademark of a Syngenta Group Company

Group Name : SDHI (Succinate DeHydrogenase Inhibitor)

Chemical group : N-methoxy-(phenyl-ethyl)-pyrazole carboxamides

FRAC target site : C2, complex II Succinate Dehydrogenase
FRAC Code : 7

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ADEPIDYN™ – Biological mode of action in fungi

1. ADEPIDYN™ in principle acts at all stages of a pathogen. The mode of action in complex II of the mitochondrial respiratory chain results in inhibition of spore germination, germ tube development and mycelium growth.
2. Early events (spore germination, initial germ tube elongation) tend to be more susceptible, hence the recommendation to use products preventatively.
   Early stages of fungal growth are usually on the plant surface, with good access to the AI, hence good activity at low ppm levels.
3. However, diseases with multicellular spores tend to be more difficult to inhibit completely (spore germination, and germ tube elongation)

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MIRAVIS® – Guidelines for Resistance management

MIRAVIS® belongs to SDHI group, known as complex II respiration inhibitors (FRAC Group 7)

IMPORTANT to follow FRAC Guidelines for a SUSTAINABLE Use of Fungicides

MIRAVIS ® recommendations follow Australian FRMRG Croplife group on pesticide resistance

FRMRG Guidelines 2017 for SDHI group

1. Apply SDHIs preventatively
2. SDHI sprays should not comprise more than 50% of applications
3. Used in rotation with other MOA

4. Canola - Integrated approach with industry Blackleg Management Guidelines

SDHI Working Group FRAC FUNGICIDE RESISTANCE ACTION COMMITTEE

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Canola –Australia

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Canola Registration

Diseases

Blackleg

White Leaf Spot

Application rates & timings

300 – 450mL/ha where a seed treatment has been used.

450 – 600mL/ha where no seed treatment has been used.

4 – 6 leaf

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Blackleg

Trial data

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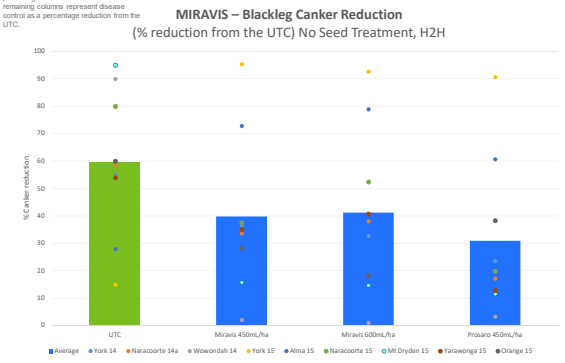
Please note, the UTC column is the percentage of canker or disease level. The remaining columns represent disease control as a percentage reduction from the UTC.



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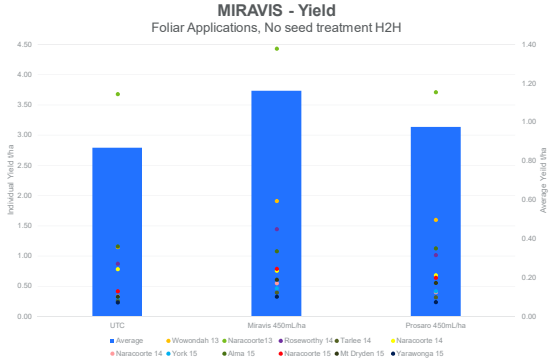

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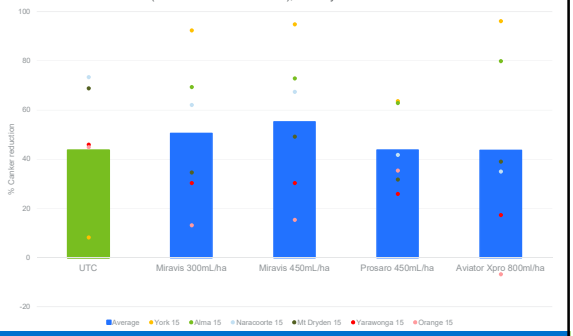
Please note, the UTC column is the percentage of canker or disease level. The remaining columns represent disease control as a percentage reduction from the UTC.

MIRAVIS – Blackleg Canker Reduction

(% reduction from the UTC), Jockey Treated Seed



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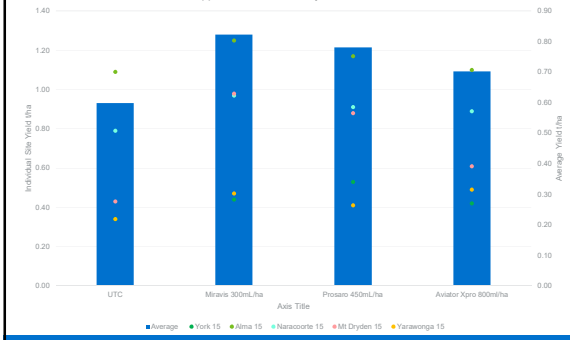
MIRAVIS - Yield

Foliar Applications over Jockey Treated Seed, H2H



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AU 2013 EPE Blackleg on canola
WF055A3-2013AU – Horsham Vic
Plot size: 20 m2, Rep: 4, Sprayvol.: 100 L/HA
Appl.: 8/7/2013 Cv: 45Y86CL

UTC

No seed treatment
Miravis 600 mL/ha

Prosaro 450ml/ha

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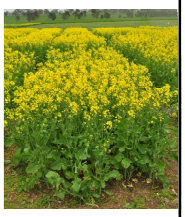
AU 2013 EPE Blackleg on canola
WF055A3-2013AU – Horsham Vic
Plot size: 20 m2, Rep: 4, Sprayvol.: 100 L/HA
Appl.: 8/7/2013 Cv: 45Y86CL

UTC

Base seed treatment of Jockey
Miravis 450 mL/ha



Prosaro 450ml/ha

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AU 2014 EPE Blackleg on canola
WF055H3-2013AU – Tarlee
Plot size: 17 m2, Rep: 4, Sprayvol.: 100 L/HA, Appl.: 1/7/2014 Cv: Crusher TT

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White Leaf Spot

Trial data

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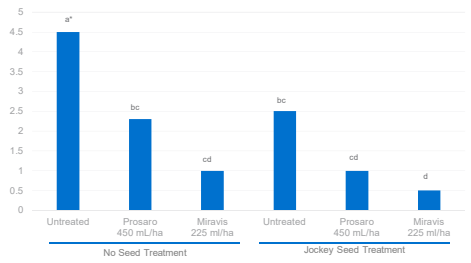
White Leaf Spot Control
0-6 Severity rating (0=no disease), Naracoorte 2015



*Scores with the same letter are not significantly different at the 95% confidence interval

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MIRAVIS Summary

- Consistent yield improvements over standards
- Step change in control for Blackleg
- Excellent rain fastness, fast uptake and compatibility

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Compatibility

The following products have been biologically tested:

- Alpha Cypermethrin
- Lemat
- UAN
- Gesaprim
- Simazine
- Lontrel
- Select
- Verdict

Further Biological and Physical work to be conducted in 2018:

- Roundup Ready Herbicide
- Lontrel Advance
- Sentry
- Karate Zeon
- Pirimor
- Lorsban
- Zinc
- Copper

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